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ABSTRACT OF THE DISCLOSURE

An electrically-insulating polymer-based material with improved thermal conductivity so as to be suitable for use as an adhesive for mounting and conducting heat from electronic devices. The polymer-based material comprises metal particles dispersed in a matrix material. The metal particles are encapsulated by a dielectric coating so that they are electrically insulated from each other. The polymer-based material may also comprise dielectric particles dispersed in the matrix material and/or the dielectric coating for the purpose of further increasing the thermal conductivity of the polymer-based material. The material is also suitable for use as a potting compound or an encapsulation material for various electronic applications.